

UNITED STATES DISTRICT COURT  
DISTRICT OF MINNESOTA

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Peakspeed, Inc.,

Civil File No. \_\_\_\_\_

Plaintiff,

**COMPLAINT AND DEMAND FOR  
JURY TRIAL**

v.

Timothy Emerson,

Defendant.

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Plaintiff Peakspeed, Inc. (“Peakspeed”), by its undersigned counsel, for its Complaint against Defendant Timothy Emerson (“Emerson”) states and alleges as follows:

**INTRODUCTION**

1. Peakspeed brings this action seeking a judgment declaring that it is the sole and rightful owner with the exclusive right to use the source code for valuable computer programs it developed—TrueView and IdentifAI—and to recover for damage to its computer systems caused by Defendant.

2. Defendant Emerson is the former Chief Technical Officer of Peakspeed and while employed by Peakspeed he was a part of a team engaged in collective work to develop TrueView. As part of the team, Emerson wrote at most a mere 10% of the TrueView source code—code which consisted of well-known trigonometric calculations needed for processing satellite imagery and aerial photographs. These trigonometric

calculations are not themselves copyrightable—regardless of which computer language they are written in.

3. On or about July 1, 2020, Emerson resigned from Peakspeed and shortly after clandestinely accessed Peakspeed’s computer systems and servers where he attempted to change the copyright notices for the TrueView source code from Peakspeed to EmersonAI, LLC (“EmersonAI”), a company over which Emerson claims to have full ownership and control, and without any authority blocked Peakspeed’s employees access to several servers containing the software code and development tools for TrueView.

4. Since then Emerson has wrongfully and maliciously asserted ownership of the TrueView and IdentifAI programs and attempted to interfere with Peakspeed’s use of the programs. In particular, Emerson has threatened to “kill” any deals between Peakspeed and Xilinx, Inc. (“Xilinx”)—a manufacturer of computer chips and valuable business partner for Peakspeed.

### **PARTIES, JURISDICTION, AND VENUE**

5. Plaintiff Peakspeed is a corporation organized and existing under the laws of the State of Delaware with its principal place of business in Deephaven, Minnesota.

6. Defendant Timothy Emerson is a resident of Colorado.

7. This is a civil action for declaratory judgment under the Copyright Act, 17 U.S.C. §§ 101-1401, and for violation of the Computer Fraud and Abuse Act, 18 U.S.C. § 1030.

8. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. § 1331, and supplemental jurisdiction over the state law claim under 28 U.S.C. § 1367.

9. This Court has personal jurisdiction over Defendant. Emerson has purposefully directed activities at residents of this forum. Emerson negotiated with a Minnesota-based corporation to serve as that corporation's Chief Technology Officer ("CTO"), including sending email and telephone communications into Minnesota to Peakspeed's Chief Executive Officer ("CEO") David Eaton ("Eaton"). As CTO, Emerson continued to send email and telephone communications into Minnesota to Emerson and also Peakspeed's Vice President Dave Zimmerman ("Zimmerman"). Emerson was paid by Peakspeed from Peakspeed's bank account in Minnesota. Emerson wrongfully changed the assignment of Peakspeed's Amazon Web Service ("AWS") account, and attempted to change Peakspeed's copyright notices for its TrueView software, knowing that the resulting harm would be felt in Minnesota. Emerson further has attempted to interfere with Peakspeed's business relationships, again knowing that the resulting harm will be felt in Minnesota. Emerson has also sent mail asserting ownership to Peakspeed's copyrights in its TrueView source code to Eaton in Minnesota, and to Peakspeed employees in other states knowing that the harm would be felt in Minnesota.

10. Venue is proper under 28 U.S.C. § 1400(a) because Emerson may be found in this District, and is proper under 28 U.S.C. § 1391(b) because a substantial part of the events giving rise to the claims occurred in this District.

## STATEMENT OF FACTS

### **A. Peakspeed is in the Business of Developing Computer Programs for Faster Processing of Satellite Images and Aerial Photographs**

11. Peakspeed is a recent startup company in the business of computer programming—and specifically in the business of creating geospatial programs to be run on special computer processors known as field programmable gate arrays (“FPGAs”).

12. Peakspeed’s current program development focuses on creating programs to correct distortions inherent in images created through satellite or drone images.

13. Due to topography, the tilt of the camera, and the shape of the earth, all satellite imagery and aerial photographs have spatial distortions.

14. Correcting these distortions requires known mathematical calculations and, due to the orthogonal angle between the camera and ground, is called “orthorectification.”

15. Because “orthorectification” is done using known mathematical calculations it is amenable to being done rapidly using a computer.

16. Traditional computers and computer chips—such as CPUs—have speed limitations due to the generic hardware that is used. In particular, the circuitry of CPUs is designed to be multi-purpose.

17. The speed of computations can be increased by designing a circuit for a specific purpose. One way to design such a circuit is using an FPGA chip rather than traditional CPU.

18. FPGAs, however, have not been commonly implemented for several reasons. First, the programming languages are very difficult to master. Second, the deployment and maintenance of FPGAs is costly. Physically integrating FPGAs into an overall system is a difficult task to which many programmers are not accustomed.

19. Recently, however, a proverbial “gold rush” towards FPGAs has been created by the availability of cloud-based FPGAs from AWS at the beginning of 2018 and from Microsoft Azure in June 2020.

20. Cloud-based FPGAs provide a solution to common problems. First, by having FPGAs in the cloud, AWS or Microsoft is responsible for deployment and maintenance. Second, by having FPGAs accessible to clients in the cloud, companies with developers versed in FPGA languages can create programs that clients can access without need for any in-house FPGA fluency. Peakspeed is one such company.

21. Peakspeed was formed by Eaton in January 2020 to bring the faster speeds of FPGAs to the world of orthorectification.

22. With the proliferation of satellites and drones, the demand for orthorectification and related image processing is extraordinary—an estimated \$10-\$15 billion market for software alone.

23. This is because producers of data (satellite and drone owners) must orthorectify all their images in order to obtain accurate, usable images. Given the amount of data being produced—terabytes of data in a single day for a single customer—increased processing speed is a significant cost savings.

24. In addition, much of the data is used by the United States' government and intelligence and defense industries—industries where time is of the essence: a few minutes, or even seconds, can be the difference between life and death.

25. Eaton recognized a significant opportunity to use cloud-based FPGAs to increase processing speed for satellite images and aerial photography and formed Peakspeed along with Defendant Emerson.

**B. Peakspeed Hires Emerson as CTO, and Hires Other Programmers to Serve as Architects of TrueView Product. Emerson's Contribution to TrueView is Trigonometric Calculations Which Constitute Only About 10% of the Code**

26. At the inception, Eaton became the CEO of Peakspeed and he hired Emerson to be its CTO. The duration of this relationship was to be indefinite—Emerson was a “C-level” employee, not a contractor hired on a temporary basis. Emerson was paid on salary and also was to be given an equity share of Peakspeed if he remained with the company for several years and helped build the value of the business. Peakspeed expected Emerson to work on all projects assigned to him.

27. One assignment Peakspeed gave to Emerson was to assist with the development of a cloud-based FPGA orthorectification program, which Peakspeed has branded “TrueView.” Emerson also helped with early development of an artificial intelligence product, known as “IdentifAI,” that will be able to recognize the number of items of interest (such as ships or cars) in an aerial image.

28. Although Emerson was tasked with assisting with TrueView, Emerson did not have the technological capability to design the TrueView software alone or even as primary architect.

29. Emerson does not have experience in writing a complete application that is capable of being deployed by a customer. In addition, FGPA programming languages and tools are difficult to master. Emerson had limited experience with the Xilinx tools used to program the FPGA boards used by AWS, which are FPGA boards manufactured by Xilinx, Inc. (“Xilinx”).

30. Therefore, Peakspeed had to hire experienced and well-respected software developers Zimmerman and Oscar Kramer (“Kramer”), each of whom have many programs in production at large corporations, to serve as the architects of the TrueView software.

31. Under the direction of Zimmerman and Kramer, Peakspeed has developed a pilot version of TrueView.

32. The TrueView program consists of four essential software components. The CPU code preprocesses the image data, and then two other components provide the link to the FPGA. The fourth component performs the final functions on the FPGA.

33. Emerson’s work on TrueView was limited to a narrow set of instructions—programming FPGAs to execute the trigonometric calculations necessary for orthorectification. As of July 3, 2020, Emerson had written only about 10% of the entire TrueView source code.

34. In particular, Emerson took well-known CPU code for the trigonometric calculations and memory management and wrote FPGA code for those same calculations. Due to his unfamiliarity with Xilinx, Inc. (“Xilinx”)—the inventor of FPGAs and a manufacturer of FPGA boards used by AWS—tools and languages, Emerson heavily

drew upon Xilinx publications in the public domain to gain sufficient knowledge to write trigonometric calculations and memory management in FPGA code. Peakspeed also hired Dave Caliga and Pradeep Thiruchelvam—who are well-versed in the Xilinx tools and languages.

35. The instruments and tools used by Emerson were provided to Emerson by Peakspeed who obtained and paid for the instruments and tools.

36. To write code, programmers use suites of tools licensed from software companies. For Emerson's work, Peakspeed licensed *and paid for* sets of tools from Esri and Microsoft.

37. Peakspeed also leveraged its relationship with Xilinx to obtain a license to additional tools for Emerson to use.

38. To create a working program, there also needs to be a development environment for programmers to run and test code. Peakspeed opened an AWS account and rented a development server for all programmers, including Emerson.

39. Peakspeed also paid for a subscription to a coding platform, Microsoft DevOps, on which all of the TrueView code was written. PeaksSpeed also hired and paid for assistants for Emerson.

40. By July 2020, Peakspeed had the TrueView code developed enough for pilot programs.

41. Emerson also worked on IdentifAI, for which there is a small amount of code that has been written by Peakspeed programmers.



**C. Emerson Resigns from Peakspeed, Attempts to Claim TrueView for EmersonAI, Blocks Peakspeed's Employees Out of Peakspeed's Computer Systems, and Interferes with Peakspeed's Business Relationships**

42. On or about July 1, 2020, Emerson abruptly announced his resignation from Peakspeed.

43. On or about July 3, 2020 (a national and company holiday to observe the Fourth of July), Emerson logged onto Peakspeed's computer system DevOps and began changing the source code copyright notices on the TrueView software from Peakspeed to EmersonAI. EmersonAI is a company that was formed by Emerson and over which he claims full ownership and control. Emerson modified the copyright notices on 230 files, only fifteen of which he had worked on. Peakspeed

44. Emerson then logged onto Peakspeed's AWS account and changed the account assignment from Peakspeed to EmersonAI.

45. Emerson also locked out all of Peakspeed's employees from Peakspeed's computer systems and AWS account.

46. Locking Peakspeed's employees out of the Peakspeed AWS account deprived Peakspeed of a development server rented from AWS and a \$20,000 AWS credit that was awarded to Peakspeed. This credit was awarded to Peakspeed as part of a merit-based award from AWS to startups to encourage innovation using AWS's cloud-based services.

47. Emerson also locked Peakspeed employees out of two development servers—thereby retaining copies of the TrueView source code for himself.

48. As a result of Emerson's misconduct, Peakspeed had to open a new AWS account, rent new servers, and rebuild its entire development environment—losing weeks of work in the rebuilding process.

49. Peakspeed programmers also are engaged in the costly process of deleting every portion of trigonometric code written by Emerson and re-writing those portions of the code from scratch.

50. In programming FPGAs to execute trigonometric calculations, programmers have only a limited amount of discretion—and that discretion relates primarily to naming conventions (such as names of variables) and efficiency (such as the order of operations).

51. In re-writing trigonometric portions of the code, Peakspeed used its own discretion with naming variables and organizing the order of operations. Accordingly, the only aspects of the current Peakspeed code that resemble Emerson's code are the trigonometric formulas themselves—which can only be expressed in a few ways using the Xilinx coding tools.

52. Peakspeed programmers also restored the copyright notice on the TrueView source code to reflect the true author and recite Peakspeed as the owner.

53. After his resignation, Emerson has attempted to claim ownership of TrueView and IdentifAI.

54. Through counsel, Emerson has sent letters to Eaton, Kramer, and Peakspeed's other employees accusing them of copyright infringement and other intellectual property violations related to Peakspeed's use of TrueView and IdentifAI.

55. Emerson also contacted key Xilinx personnel who are responsible for the relationship between Peakspeed and Xilinx and stated that there was a “misunderstanding” between him and Peakspeed with respect to the Peakspeed products.

56. Based on Emerson’s misrepresentations to Xilinx, Xilinx informed Peakspeed that Emerson’s claim had created a risk with the relationship and could cause a problem between Xilinx and Peakspeed.

57. The business relationship with Xilinx is crucial to Peakspeed and TrueView’s future success. Xilinx is the inventor and one of the manufacturers of FPGAs. AWS uses Xilinx FPGA boards for its cloud-based FPGA services.

58. Xilinx has a symbiotic relationship with startups that create FPGA code such as Peakspeed. To spur demand for FPGAs, Xilinx encourages development of useful programs that operate on Xilinx-made FPGAs on the AWS cloud. Therefore, Xilinx refers clients with known needs to developers that specialize in those needs.

59. Currently, Xilinx has assisted Peakspeed in supproting about twelve pilot projects (the number is approximate because some projects are at the proposal stage) and also committed to sharing costs of development for these pilot projects.

60. These twelve pilot projects are the tip of the iceberg for business opportunities for Peakspeed. Given the emerging nature of the market for cloud-based FPGA programs, successful pilot programs will lead to additional referrals and also establish Peakspeed as the leader in cloud-based FPGA geospatial programming.

61. Xilinx will not refer clients to Peakspeed or proceed with pilot projects if Emerson continues to wrongfully and falsely claim ownership and copyrights over TrueView and IdentifAI

62. Knowing this, Emerson warned Eaton stating that “if . . . Dave Eaton or Peakspeed brings a lawsuit against EmersonAI, that will kill any business deals with Xilinx, because they won’t do business with either EmersonAI or Peakspeed.”

**COUNT I—DECLARATORY JUDGMENT (COPYRIGHT OWNERSHIP)**

63. Plaintiffs re-allege and incorporates by reference all of the allegations set forth in the above paragraphs as if fully set forth herein.

64. An actual controversy exists regarding the ownership of the copyrights to the source codes TrueView and IdentifAI.

65. Neither Emerson nor EmersonAI has any ownership interest in the TrueView or IdentifAI source codes.

66. EmersonAI has no relationship with Peakspeed and made no contributions to the TrueView or IdentifAI source codes.

67. Emerson’s contributions to the TrueView and IdentifAI source codes were made as a work for hire.

68. Emerson’s trigonometric calculations code contributions to the TrueView source code were not independently copyrightable—consisting of expression of trigonometric equations.

69. Emerson's trigonometric calculations code contribution to the TrueView source were also not original to him—he copied sources in the public domain to create the code for trigonometric calculations.

70. Emerson was not intended to be a joint author of the TrueView source code, and did not exercise any creative control over the source code as a whole. He wrote only about 10% of the code.

71. Emerson's trigonometric calculations code contributions to the TrueView source code have are being removed from TrueView code and the only remaining similarity is the result of the functional demands of programming FPGAs to perform the trigonometric calculations necessary for orthorectification.

72. Accordingly, Emerson is not an author of TrueView or IdentifAI source code.

73. Peakspeed's remedies at law are inadequate to compensate for the harm caused by Emerson and EmersonAI's claims of ownership. Defendants' actions have caused and will cause irreparable harm to Peakspeed and its business opportunities, reputation, and good will.

74. Emerson and EmersonAI's actions will continue unless enjoined by this Court and a declaration regarding ownership is issued.

## **COUNT II—DECLARATORY JUDGMENT (COYRIGHT USAGE)**

75. Plaintiffs re-allege and incorporates by reference all of the allegations set forth in the above paragraphs as if fully set forth herein.

76. An actual controversy exists regarding the ownership of the copyright to the source codes TrueView and IdentifAI.

77. Peakspeed's employees, and not Defendant, are the true and only authors of the TrueView and IdentifAI source code. Peakspeed is owner to the copyrights to these source codes.

78. Therefore, Peakspeed has a right to use the TrueView and IdentifAI source codes without interference from Emerson or EmersonAI.

79. Peakspeed's remedies at law are inadequate to compensate for the harm caused by Emerson and EmersonAI's attempts to interfere with Peakspeed's use of the TrueView and IdentifAI source codes.

80. Defendants' actions have caused and will cause irreparable harm to Peakspeed and its business opportunities, reputation, and good will.

81. Emerson and EmersonAI's actions will continue unless enjoined by this Court and a declaration regarding Peakspeed's right of use is issued.

### **COUNT III—VIOLATION OF COMPUTER FRAUD AND ABUSE ACT**

82. Plaintiffs re-allege and incorporates by reference all of the allegations set forth in the above paragraphs as if fully set forth herein.

83. Emerson accessed a protected computer or computers rented to Peakspeed that were used in or affected interstate commerce or communication after his resignation from Peakspeed.

84. Emerson's access of Peakspeed's computer(s) was unauthorized and beyond the scope of access for which he was authorized. Emerson had resigned from

Peakspeed and had no authorization to change the names on accounts, change copyrights, or to block Peakspeed's employees' access to these computers.

85. Emerson's access of Peakspeed's computer(s) was with intent to defraud and in furtherance of a scheme to defraud. Emerson's access was in furtherance of scheme to fraudulently obtain copyrights in the TrueView source code, wrongfully retain copies of that valuable code, and fraudulently prevent Peakspeed from using that source code.

86. As a result of blocking Peakspeed employee's access to their AWS account, Emerson obtained for his exclusive use a \$20,000 credit from AWS.

87. Emerson intentionally accessed Peakspeed's computer(s) without authorization, and as a result, caused damage and loss. This damage includes the time spent by Peakspeed programmers rebuilding their development environment on new servers, the cost of renting new servers, and the lost AWS credit.

88. As a result of Emerson's unauthorized access, and access beyond his scope of authority, of Peakspeed's computers, Peakspeed has suffered losses in excess of \$5,000 in costs to investigate Emerson's actions and restore data.

89. As a result of Emerson's conduct, Peakspeed has suffered and will continue to suffer irreparable injury such that there is no adequate relief at law, and equitable relief must be granted.

#### **COUNT IV—CONVERSION**

90. Plaintiffs re-allege and incorporates by reference all of the allegations set forth in the above paragraphs as if fully set forth herein.

91. By locking Peakspeed employees out of Peakspeed's AWS account, Emerson has willfully interfered with Peakspeed's use and possession of the \$20,000 AWS credit, and slowed Peakspeed development of its software.

92. As a result of Emerson's conduct, Peakspeed has suffered and will continue to suffer irreparable injury such that there is no adequate relief at law, and equitable relief must be granted.

### **RELIEF REQUESTED**

WHEREFORE, Plaintiff Peakspeed, Inc. requests that this Court enter judgment in its favor and against Emerson and EmersonAI as follows:

- a. A declaration that Emerson and EmersonAI have no ownership interest in the copyrights to the TrueView source code or IdentifAI source code.
- b. A declaration that Peakspeed has the sole and exclusive right to use the copyrights to the TrueView source code and IdentifAI source code without interference from Emerson or EmersonAI.
- c. Injunctive relief, including an Order (1) prohibiting Emerson or EmersonAI from asserting an ownership interest in the to the TrueView source code or IdentifAI source code, (2) prohibiting Emerson or EmersonAI from interfering with Peakspeed's use of the TrueView source code and IdentifAI source code, (3) prohibiting Emerson from contacting Peakspeed's employees, customers or partners in an effort to call into question the ownership of the TrueView source code, (4) restoring Peakspeed's access to its Amazon Web Services account, and (5) returning or destroying any copies of the TrueView source code retained by Emerson.
- d. Award Peakspeed any and all monetary relief to which it is entitled including monetary damages for actual loss and unjust enrichment;
- e. Award Peakspeed its reasonable attorney's fees and costs; and
- f. Such other relief as the Court deems just.



**DEMAND FOR JURY TRIAL**

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands trial by jury in this action of all issues so triable.

DORSEY & WHITNEY LLP

Dated: July 24, 2020

By /s/ RJ Zayed  
RJ Zayed # 0309849  
zayed.rj@dorsey.com  
Forrest K. Tahdooahnippah #391459  
forrest@dorsey.com  
Suite 1500, 50 South Sixth Street  
Minneapolis, MN 55402-1498  
Telephone: (612) 340-2600

***Attorneys for Plaintiff Peakspeed, Inc.***